What is claimed is:

1. A process of fractionating a vinylidene fluoride polymer, comprising:

adding a precipitant to a solution comprising a vinylidene fluoride polymer and a solvent, to form a mixture, wherein the solvent has at least one polarizable functional group, wherein the precipitant is miscible with the solvent, and wherein the precipitant is added in an amount sufficient to produce, at a first temperature, a solid-liquid phase separation between the mixture and a fraction of the vinylidene fluoride polymer, based on the molecular weight of the vinylidene fluoride polymer; and

isolating the weight-fractionated vinylidene fluoride polymer from the mixture.

2. The process of claim 1, wherein the vinylidene fluoride polymer comprises:

10 to 90 mol% of vinylidene fluoride; and

10 to 90 mol% of trifluoroethylene.

3. The process of claim 1, wherein the vinylidene fluoride polymer is ferroelectric.

4. The process of claim 1, wherein a molecular weight distribution ratio of the weight-fractionated vinylidene fluoride polymer is less than 1.3.

5. The process of claim 1, further comprising heating the mixture to a second temperature sufficient to form a single phase; and cooling the mixture to a third temperature effective to produce a solid-liquid phase separation between the mixture and a fraction of the vinylidene fluoride polymer based on the molecular weight of the polymer.

6. A process of fractionating a ferroelectric polymer, comprising:

adding a precipitant to a solution comprising a ferroelectric polymer and a solvent, to form a mixture, wherein the solvent has at least one polarizable functional group, wherein the precipitant is miscible with the solvent, and wherein the precipitant is added in an amount sufficient to produce, at a first temperature, a solid-liquid phase separation between the mixture and a fraction of the ferroelectric polymer, based on the molecular weight of the ferroelectric polymer; and

isolating the fractionated ferroelectric polymer from the mixture, wherein the isolated fraction has a narrower molecular weight distribution than the initial ferroelectric polymer dissolved in the solution.

7. The process of claims 6, wherein a molecular weight distribution ratio of the weight-fractionated polymer is less than 1.3.

8. The process of claim 6, further comprising heating the mixture to a second temperature sufficient to form a single phase; and cooling the mixture to a third temperature effective to produce a solid-liquid phase separation between the mixture and a fraction of the ferroelectric polymer based on the molecular weight of the polymer.

9. A ferroelectric polymer having a molecular weight distribution ratio of less than 1.3.

10. The ferroelectric polymer of claim 9 wherein the polymer is a vinylidene fluoride polymer, the polymer optionally being ferroelectric.

11. A film comprising the ferroelectric polymer of claim 9, wherein the film has a thickness of 20 to 150 nanometers.

12. A data processing device comprising

the film of claim 11, wherein the film is a continuous layer in contact with a first electrode structure and a second electrode structure, the first electrode structure and the second electrode structure each comprising substantially mutually parallel strip electrodes such that the electrode structures mutually form a substantially orthogonal x, y matrix, and a portion of the ferroelectric vinylidene fluoride polymer film at an intersection between an x electrode and a y electrode of the electrode matrix forms a logic element electrically connected to form the data processing device.

13. An article comprising the ferroelectric polymer of claim 9.